

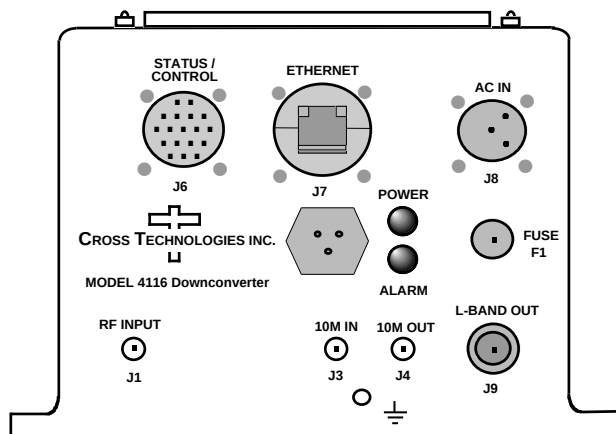


DATA SHEET

REV. A 4/30/12

4116-275 Ka-band Block Downconverter, Weather Resistant*

The 4116-275 Ka-band Block Downconverter converts 27.5 - 28.5 GHz to 0.95 - 1.95 GHz. Front panel LEDs provide indication of DC Power and PLL Alarms. The L-band to RF gain is +30 dB. Connectors are 2.92 mm for RF In, SMA for external reference input and output, and Type N (all female) for L-band out. Gain and internal 10 MHz frequency are controlled by the Ethernet M&C. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The unit is powered by a 100-240 $\pm 10\%$ VAC power supply, and is mounted in a 8"W X 6"H X 16"D Weather Resistant* enclosure.



***Weather Resistant** enclosures are designed to be water resistant for installation in an outdoor enclosure/antenna hut OR mounted outdoors on an antenna assembly at their specified temperature ranges. They are designed to be located "out in the elements" (water, sleet, snow, etc.) but they are *not* designed to be "submerged under" water.

If an extended temperature range is required, there is an **Extended Temperature** option (**Option W21**; -30°C to +60°C) available at an additional cost. Contact Cross for quote.

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss 50 Ω /14 dB
Frequency (GHz) 27.5 to 28.5
Noise Figure, Max. 20 dB max gain
Input Level range -50 to -30 dBm

Output Characteristics

Impedance/Return Loss 50 Ω /14 dB
Frequency 0.95 to 1.95 GHz
Output Level Range -20 to 0 dBm
Output 1 dB compression +10dBm, max gain

Channel Characteristics

Gain at Fc +30 ± 3 dB, (+30 to 0 dB variable in **0.5 $\pm$ 0.5 dB** steps)
Image Rejection > 60 dB, min
Spurious, Inband SIG. REL. <-50dBC, -15 to 0dBm out; 2X F_o <-45dBC; SIG. INDEP., <-60dBm; .95-1.95 GHz out, Gmax
Spurious, Out of band <-55 dBm, signal independent; 0.5-2.45 GHz out
Intermodulation <-50 dBC for two carriers at 4 MHz spacing, each at -5 dBm out
Frequency Response ± 1.5 dB, over RF band; ± 0.5 dB, 40 MHz BW
Frequency Sense Non-inverting

LO Characteristics

LO Frequency 26.55 GHz
Frequency Accuracy ± 0.05 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-60	-70	-80	-90	-100

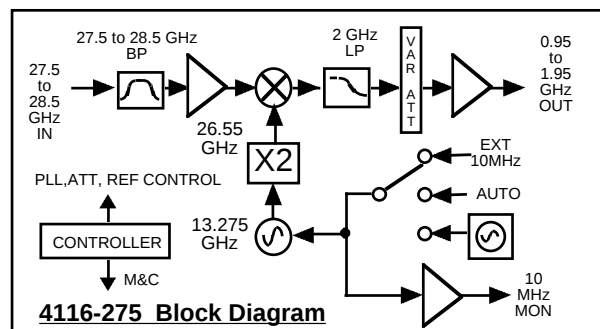
10 MHz level In/Mon +2 to +8 dBm in; Monitor Output = input level ± 1.0 dB, 50 ohms

Controls, Indicators

Gain, 10M Freq. Gain and internal 10 MHz frequency via Ethernet M&C or Status/Control Connector.
PLL Alarm Red LED, External contact closure
Power Green LED

Other

RF In Connector 2.92 mm (female), 50 Ω
L-Band Connector Type N (female), 50 Ω
10 MHz Connectors SMA (female), 50 Ω
Ethernet Connector Standard RJ45 Weatherized Connector, RJF6G
Size 8" Wide X 6" High X 16" Deep Weather Resistant* Enclosure
Power 100-240 $\pm 10\%$ VAC, 47 - 63 Hz, 25 watts max./ FCI Clipper Series CL1M1102 Connector



4116-275 Block Diagram

**+0 to +50 degrees C; Specifications subject to change without notice

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